



HOOVER DAM

SYMMETRY SYNCHRONIZES TECHNOLOGY TO HELP SECURE HOOVER DAM

One of America's national icons, the Hoover Dam is a concrete thick arch dam in the Black Canyon of the Colorado River. Built by the Bureau of Reclamation (Reclamation), Hoover is located on the border between the U.S. states of Arizona and Nevada, and is currently the world's 34th largest hydroelectric generating station. Hoover Dam's authorized purposes are to provide flood control, water storage and delivery, and generate electricity. The water and power provided by Hoover Dam are valuable resources for three southwestern States. Located 30 miles southeast of Las Vegas, Hoover Dam is the number one non-gambling tourist destination in Nevada, and is registered as one of the engineering marvels of the world.

Reclamation, part of the Department of the Interior, is a contemporary water management agency that is best known for the dams, powerplants and canals it constructed in the 17 western states. Water from Hoover Dam, Reclamation's first huge multi-purpose structure, serves nearly 23 million people in the Southwest, and more than 2 million acres of land in Arizona, California and northern Mexico. The dam generates, on average, more than four billion kilowatt-hours of power each year – enough for more than two million households.

Risk Assessment

In the post 9/11 world, national security awareness increased. Reclamation realized its security programs at Hoover Dam, along with Davis Dam and Parker Dam, both located downstream on the Colorado River, needed to be upgraded to be able to respond more quickly and effectively in the event of a threat.

Part of this process included comprehensive risk assessments of all three facilities. Reclamation needed to improve its quick detection ability and develop a pre-planned organized response to mitigate any security related incident and quickly recover. Homeland Security Presidential Directive (HSPD) 7 and Department of the Interior guidelines were two additional critical factors.

To address this need, Reclamation issued a Request for Proposals, inviting companies with this expertise to submit proposals to upgrade and improve Reclamation's existing electronic security system. In May, 2007, Reclamation awarded a \$4.1 million contract to Sim-G Technologies and Integrated Security Solutions for this project.

"These vendors had hundreds of man-years of experience in physical and electronic security systems, and had integrated these types of security systems into other dams in the U.S.," said Don Taussig, Reclamation's Chief Security Officer. "After evaluating all the proposals we received, we made a determination to award this critical contract to them."

Hoover Dam has long had an active security program, dating from the dam's construction period in the 1930's. This security program has been updated throughout the years in response to various national and world events. Today it is a multifaceted protection strategy that includes a security force comprised of officers from the Hoover Dam Police Department, proprietary and contract guards, and technological components. Through



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the implementation of AMAG Technology’s Symmetry Enterprise Security Management System, all onsite security entities now work together as one to help protect this critical national resource from any threat or actual emergency resulting from a hostile act.

It takes a dedicated operations center to keep Hoover, Davis and Parker Dams running smoothly and to maintain the delivery of water and generation of power.

A similar center is required to keep the security side of the house running smoothly, to ensure that all three facilities and associated assets are protected. The Symmetry workstation is the focal point of the security control and command center. Pelco DX8100 Digital Video Recorders integrate with Symmetry to display video images on the screens. The security operators monitor the systems on a 24/7 basis through the workstation, which provides real-time access to alarm screens, interactive maps and the access control system, to monitor security for all three dams from a central location.

Design and installation of the system faced several challenges.

“Trying to separate public access from controlled access and being a facility with millions of visitors each year was certainly a challenge to creating a highly sophisticated, technologically current security system, and AMAG Technology helps us achieve that,” Taussig said.

“Reclamation explained to us that their biggest concern is unauthorized entry,” said Vice President, Bill Sawyer of Sim-G Technologies, the installing integrator. “Symmetry gives them an early warning and tells them if an area is breached.”

Maintaining a high level of security, while sustaining a continuous traffic flow over the dam was also a major challenge,” Taussig added. “Symmetry, in conjunction with Pelco’s Digital Video Recorders and good policies and procedures, allowed our security personnel to detect any suspicious behavior and

respond immediately. It allowed us to use a variety of tools and technology. All facets work together to ensure the proper response is made quickly.”

A third challenge was the fact that Hoover Dam is on the National Historic Register. “It was important to install all equipment without destroying the architectural integrity,” said Taussig. The intention was to detect without detracting from the overall landscape. This meant more hidden tools than obvious ones like fences. Installing sensors and cameras that were not readily noticeable provides needed security without compromising architectural integrity.

“We chose AMAG because we wanted a one or two mouse click response to an alarm,” Taussig concluded. “We like the scalability of the system, how easy it is to use for the operator and how it ties into our other available technologies. It’s very robust.”

Future

This security upgrade project is not the end of security efforts at these three facilities. Reclamation continues to improve the current system as new technology becomes available. In addition, Reclamation security personnel are continuously on the lookout today, as they have been for decades, for new systems that can make the overall security more robust and effective.



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